iConquerMS™
CAREGIVERS

Multiple Sclerosis Care Partner Research Landscape Review

Contract 21345-ACPMS
January 31, 2021

Background

The US Food and Drug Administration (FDA) defines a caregiver as "a person who helps a patient with daily activities, health care, or any other activities that the patient is unable to perform himself/herself due to illness or disability, and who understands the patient's health-related needs. This person may or may not have decision-making authority for the patient and is not the patient's healthcare provider."[1] For the purposes of this landscape review, we will use the terms caregiver, care partner, and carer interchangeably when referring to a person providing caregiving to another living with multiple sclerosis (MS).

An MS caregiver could hold a dual role in research. Firstly, they may participate in research focused on understanding and addressing the health and quality-of-life needs of caregivers, specific to MS or more generalizable to non-disease-specific caregiving. Secondly, there is an emerging interest in the role of the MS carer as an observer to their loved one with MS, as a participant and contributor to research studies focused on the person diagnosed with MS. The input of the MS carer as observer in MS research would be captured through Observer Reported Outcomes (ObsRO), defined by the FDA as "A measurement based on a report of observable signs, events or behaviors related to a patient's health condition by someone other than that patient or a health professional. Generally, ObsROs are reported by a parent, caregiver, or someone who observes the patient in daily life and are particularly useful for patients who cannot report for themselves (e.g., infants or individuals who are cognitively impaired). An ObsRO measure does not include medical judgement or interpretation."[1]

While MS research focused on the person diagnosed with MS is a highly active scientific area with hundreds of millions of dollars spent annually from a variety of sources, research focused on the MS caregiver, in order to understand and address their health and quality-of-life, is substantially less supported. Although research focused on caregivers in general or caregivers in other more significantly funded disease domains (such as Alzheimer's Disease) may yield finding that are applicable to the MS carer population, research dedicated to understanding the specific needs of the MS carer must be undertaken in order to address the uniqueness of this population, to better understand the impacts of caring for a loved one with MS , and to deliver interventions designed to improve the health and quality-of-life for the MS carer and by extension for the person living with MS.

The concept of people-centered MS research, such as that made possible by the iConquerMS people-powered research network, whereby people affected by MS participate as research partners in all phases of the research continuum (as opposed to merely participating as "subjects"), is equally important and meaningful to the MS care partner population. People-powered and people-centered MS research that focuses on the needs and priorities of the MS carer, and harnesses their insights and lived experience is needed in order to ensure that the research conducted is focused on the topics of the highest priority to them; studies are designed with their input in order to best meet their needs and to fit their lives; the measures of success reflect the preferences of the population; and, the evidence generated is disseminated in language and through channels that appropriately reach MS caregivers and their families.

This document reflects our current understanding of the MS caregiver research landscape and will evolve over the course of this project as new learnings are achieved. We will continue our exploration of this landscape throughout the project and expand our engagement with relevant stakeholders including caregivers to those living with MS, researchers, healthcare providers, funders and others, in order to better understand their perspectives on the needs and gaps in MS caregiver research. In addition to ongoing and evolving communications with each stakeholder group through this project's steering committee and other interactions, we will update this document later in the course of this project to include insights gleaned from two surveys focused on MS caregiver research gaps and priorities. These surveys will be deployed to 1) MS carers and their loved ones and 2) researchers, healthcare providers, and funders.

Methods

In order to develop this summary of the current MS care partner research landscape, we have:

- Reviewed listings on clincialtrials.gov for active and recently completed trials, including those that are planned but not yet recruiting;
- Conducted an online literature review with a focus on recent publications (last 5 years);
- Reviewed publicly available industry pipelines and other offerings; and,
- Engaged with key stakeholders including researchers, funders, industry representatives, MS non-profits, and non-profits focused on caregivers.

We will continue to evolve our understanding of the state of MS care partner research throughout the Engagement Award period and beyond.

MS care partner research activity

A search conducted in January 2022 on clinicaltrials.gov yields 1,479 results returned for "caregiver" or "carer"[2] with 529 in the state of "not yet recruiting", "recruiting", "enrolling by invitation", "active, not recruiting."[3] Of these trials, only 2 are specific to multiple sclerosis caregivers.[4]

Of the remaining studies, only a small percentage could be considered generally applicable to caregivers (i.e., disease agnostic) with the majority focused on addressing disease-specific caregiver needs (e.g., stroke, dementia, cancer, etc.). While there is benefit to the advancement of all research focused on understanding how to improve the health and quality of life for caregivers (even those specific to other diseases), there is a reduced likelihood that those results would be readily available or necessarily applicable to MS carers.

Discovering trials related to the MS carer as observer in MS research is more challenging and even less fruitful. There are no obvious indicators in clinical trials.gov related to the MS carer in this role. Searching for "ObsRO" yields 20 studies, none of which are specific to MS.[5]

Using the search key word "observer" on clinicaltrials.gov yields 576 studies[6] of which 137 are in the range of "not yet recruiting" to "active."[7] None of these trials are specific to MS.

Additional search efforts yielded one MS study using an observer measure as a primary outcome but it's unclear from the available information if the observer is in fact a care partner or refers to a healthcare provider.[8]

While there appears to be a clear need for and interest in MS care partner research from the MS carer and research communities, active clinical trials specific to MS carers including those focused on their health and well-being, and those in which they may participate as an observer, are either few and far between or a well-kept secret.

More than 17,000 listing are returned when searching Google Scholar for publications related to "multiple sclerosis caregiver research" from 2016 to date but many are not focused on the needs, priorities, and burdens of caregivers but include caregivers in their title or description as an "add on" to the person living with MS.[9] We estimate the percentage of these publications specific to studying the health and quality-of-life of MS carers to be approximately 20%, a percentage that is similarly replicated when using PubMed.[10] A similar search for MS research focused on the role of the MS caregiver as observer via Google Scholar returned no results. Broadening the search for "observer-reported outcomes" to include other disease domains did yield publications focused on Alzheimer's disease with papers reporting on the use of the Dependence Scale[11] and Neuropsychiatric Inventory.[12] A successful search focused on MS with the carer as observer was finally achieved by using the key word "informant."[13]

Insights from this project's multi-stakeholder Steering Committee

A multi-stakeholder Steering Committee (SC) consisting of MS caregivers, people living with MS, researchers, healthcare providers and funders all focused on MS, and caregivers from other disease domains, are providing their lived and professional experience to the conduct of this project. SC members have identified the following areas of priority interest in MS carer research:

- Caregiver burnout is well-documented but is there research on increased comorbidities for caregivers (e.g. heart disease, high blood pressure, depression, etc.)?
- At the opposite end of the spectrum of caregiver burnout, there's also caregiver resilience. Where does that resilience come from, what are the characteristics of it, how can we sort of build that resilience in others who maybe don't find it as easily?
- What is caregiving doing to the health of the caregiver? To the health for whom they provide care?
- Are there biological changes in people who are caregivers?
- Are there interventions that can help with the physical and emotional impacts of caregiving including fatigue, depression, anxiety, guilt and others?

- What coping strategies work best for MS carers?
- What approaches to self-care and establishing balance are most successful?
- What interventions or techniques can strengthen the MS caregiver/patient relationship?
- How can we expand MS research to be more inclusive of the needs and priorities of MS caregivers?

MS caregiver initiatives sponsored by industry
Pharmaceutical companies focused on developing disease modifying therapies recognize the important and influential role of MS carers to varying degrees. While certainly all of these companies would describe inclusive efforts to involve both the MS patient and their caregiver in supportive services related to medication access, MS education, and other initiatives, EMD Serono's efforts through their Embracing Carers[14] initiative sets them apart from their industry colleagues. Grounded in research and engagement with caregivers across disease domains, EMD Serono's efforts focus significant resources to "increase awareness, discussion and action about the often-overlooked needs of carers." Additionally, in an effort similar to the role of MS carer as observer in MS research, EMD Serono has also included MS caregivers in Patient-Focused Drug Development activities allowing for the voice of the caregiver to be considered in shaping MS research studies. Similarly, Genentech includes caregivers as part of their Patient Co-Creation Council[15] though we are unaware of efforts specific to MS.

MS caregiver research from the funder perspective
The National MS Society (Society) is a leading funder of MS research. A search of their funded research projects (current as of November 2021) yields one study (recruitment completed) entitled: "Reducing Depression and Anxiety in Individuals with MS and Their Caregivers: An Emotion Regulation Skills Training Intervention"[16] and no studies that indicate the participation of caregivers as observers (though this may be embedded in the study design details).

Searching the websites of other funders of MS research including the National Institute of Health (NIH) and the Congressionally Directed Medical Research Programs (CDMRP) yield no results specific to the MS caregiver. Foundations, including large ones like the Conrad Hilton foundation also fund the conduct of research on a smaller scale but we could not identify any MS caregiver-specific research as either participant or observer.

Searching for "caregiver" in the Patient-Centered Outcomes Research Institute (PCORI) portfolio yields 218 results including research and research infrastructure, engagement awards focused on creating systems to engage stakeholders in research, and dissemination awards.[17] None with the exception of this project are specifically geared toward MS caregivers.

Resources in support of caregivers (MS and more general)
Many, if not all, of the leading MS advocacy organizations provide information and services to the MS caregiver though only the Society and Accelerated Cure Project are specifically focused on research. In addition to providing local chapter specific resources[18] including support groups, downloadable resources, and webinars, the Society's advocacy efforts includes initiatives focused on caregiver needs.[19] MS Focus (https://msfocus.org/) and the Multiple Sclerosis Association of America (https://mymsaa.org/) also provide information, educational materials, and support for MS carers and the latter allows for caregivers to "speak on behalf of the patient"

for program applications. MS nonprofit Can Do MS welcomes support partners to their educational programs and offers a curated set of resources.[20]

Nonprofits focused more generally on caregiving included the National Alliance for Caregiving and the Caregiver Action Network (CAN). The former focused on advocacy, innovation, research and resources in support of US caregivers and in 2012 published a report on MS caregivers.[21] CAN describes themselves as the nation's leading family caregiver organization working to improve the quality of life for the more than 90 million Americans who care for loved ones with chronic conditions, disabilities, disease, or the frailties of old age and provides resources, support, and community.[22]

iConquerMS

Since the launch of iConquerMS in 2014, we have developed and refined strategies for engagement of adults affected by MS as true partners in MS research. People affected by MS are invited to engage as members of iConquerMS and to contribute their expertise and insights in all phases of research from the identification of what topics should be studied (through the "Our Questions Have Power" component of the initiative), to contributing to study design, to managing the conduct of research, through to dissemination. iConquerMS members with an interest in contributing even more substantially as research partners are invited to participate in focus groups, serve as members of task forces and steering committees, and to serve as members on iConquerMS's governance, including our governing board, engagement committee, and research committee.

While MS caregivers are invited to participate in iConquerMS, the initiative's infrastructure, processes, and communications are not tailored to the interests and needs of the MS carer. Funding from this Engagement Award will enable the intentional inclusion of MS carers as members of iConquerMS, facilitate the necessary modifications to the initiative, and ensure their participation as true partners in MS research, both that focused on MS carers and in the role of observers to their loved ones.

Summary and looking forward

The MS caregiver research environment will continue to evolve as more funding is made available, interventions are explored, and advances are made in understanding the burdens and benefits of the role. The increasing importance of the "patient voice" through people-centered and people-powered research will also expand the role of the MS caregiver, both as an observer to their loved one and as a person with their own priorities and insights that can and should be incorporated into research. As we embark on the inclusion of MS caregivers as members of iConquerMS, we will engage closely with MS caregivers and other interested stakeholders, including funders and researchers, to ensure our efforts are collaborative and complimentary. As with all of Accelerated Cure Project's resources, iConquerMS is available to the research community to advance and accelerate their work. The addition of MS caregivers into iConquerMS will increase the value of the initiative to the research and care continuums.

We will update this document as needed throughout the course of the project and as new insights and findings are gleaned.

References

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